```
=> d his

     (FILE 'HOME' ENTERED AT 16:20:58 ON 09 APR 2003)

     FILE 'CA' ENTERED AT 16:21:04 ON 09 APR 2003
L1         26236 S MANNITOL
L2         99174 S ANTIOXIDANT
L3           603 S L1 AND L2
L4          3038 S MANNITOL/TI
L5         24396 S ANTIOXIDANT/TI
L6             2 S L4 AND L5
L7            76 S L1 (3A) L2
L8        355424 S DEXTROSE OR GLUCOSE
L9        133762 S ATP
L10        14444 S L8 AND L9
L11       170925 S ORGAN
L12          257 S L11 AND L10
L13        47850 PERFUSION OR PERFUSE
L14           21 S L13 AND L12
L15          236 S L12 NOT L14
L16       261983 HEART
L17           68 S L16 AND L15

=> log hold
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY      SESSION
                                                     155.66       155.87

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY      SESSION
                                                     -19.22       -19.22

CA SUBSCRIBER PRICE

  SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 16:47:24 ON 09 APR 2003
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=> d his

     (FILE 'HOME' ENTERED AT 12:42:06 ON 09 APR 2003)

     FILE 'WPIDS' ENTERED AT 12:42:14 ON 09 APR 2003
L1         25991 S ORGAN
L2         16342 S TRANSPLANT?
L3          2948 S PERFUSION OR PERFUSE
L4          3043 S PERFUSING OR L3
L5           197 S L1 AND L2 AND L4

     FILE 'CA' ENTERED AT 13:50:31 ON 09 APR 2003
L6           501 S L1 AND L2 AND L4
L7       2876313 S TEMPERATURE
L8            57 S L6 AND L7

=> log hold                                          SINCE FILE      TOTAL
COST IN U.S. DOLLARS                                    ENTRY    SESSION
                                                        67.37     324.12

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)           SINCE FILE      TOTAL
                                                        ENTRY    SESSION
                                                        -8.68      -8.68

CA SUBSCRIBER PRICE

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 14:03:36 ON 09 APR 2003
```

8 ANSWER 26 OF 57 CA COPYRIGHT 2003 ACS
AN 128:43875 CA
TI Solution and process for resuscitation and reparation of ischemically damaged tissue
IN Brasile, Lauren
PA Breonics, Inc., USA
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9743899	A1	19971127	WO 1997-US8205	19970516
	W: AU, CA, CN, JP, RU				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2255657	AA	19971127	CA 1997-2255657	19970516
	AU 9730671	A1	19971209	AU 1997-30671	19970516
	AU 723424	B2	20000824		
	CN 1226132	A	19990818	CN 1997-195768	19970516
	EP 1021084	A1	20000726	EP 1997-925571	19970516
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000511531	T2	20000905	JP 1997-542527	19970516
PRAI	US 1996-649200	A	19960517		
	WO 1997-US8205	W	19970516		

AB A process and resuscitation soln. are disclosed for inducing repair of ischem. damaged **organs** and tissues, to the degree that impairment of function can be reversed; and preventing further tissue damage during restoration of the circulation of the treated **organ** or tissue. The process comprises flushing the **organ** with the resuscitation soln. of the invention at a warm **temp**. of approx. 28-37.degree.C to remove accumulated blood and acidotic products from blood flow deprivation; and **perfusing** the flushed **organ** or tissue with the resuscitation soln., wherein the soln. contains a novel combination of components to provide for (i) dilating of the blood vessels within the **organ** or tissue, (ii) reestablishing **organ** or tissue function by supplying trophic factors, (iii) restoring cellular integrity and function to the ischem. damaged **organ** or tissue, and (i.v.) reestablishing oxidative metab. by readapting the ischem. damaged **organ** or tissue, surviving by anaerobic respiration, to an oxygenated resuscitation soln.

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=> d his

     (FILE 'HOME' ENTERED AT 12:42:06 ON 09 APR 2003)

     FILE 'WPIDS' ENTERED AT 12:42:14 ON 09 APR 2003
L1         25991 S ORGAN
L2         16342 S TRANSPLANT?
L3          2948 S PERFUSION OR PERFUSE
L4          3043 S PERFUSING OR L3
L5           197 S L1 AND L2 AND L4

=> log hold                                          SINCE FILE      TOTAL
COST IN U.S. DOLLARS                                    ENTRY    SESSION
                                                       256.54     256.75

FULL ESTIMATED COST

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 13:06:37 ON 09 APR 2003
```

L8 ANSWER 50 OF 57 CA COPYRIGHT 2003 ACS
AN 111:74399 CA
TI Total **organ perfusion** system
IN Owen, Donald R.
PA Tops Systems, Inc., USA
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 8805261	A1	19880728	WO 1988-US103	19880115
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
PRAI US 1987-4092		19870116		

AB A total **perfusion** system for extracorporeal maintenance of an **organ** for **transplantation** uses an oxygenated fluorocarbon primary **perfusion** emulsion to feed nutrients to and remove waste products from the **organ**. The system maintains the appropriate **temp**., pressure, O concn., and pH of the nutrient fluid. The waste fluid is filtered and recycled. A surgically removed dog heart was perfused normothermically with FC-43 emulsion (a com. perfluorocarbon artificial blood) for 1 h before and after a 24-h hypothermic electrolyte **perfusion**. The perfused heart exhibited excellent ventricular contractility under normothermic conditions after 24 h, and showed very little damage or edema.

8 ANSWER 6 OF 57 CA COPYRIGHT 2003 ACS
AN 136:275701 CA
TI Apparatus and method for maintaining and/or restoring viability of **organs**
IN Owen, Donald R.; Kravitz, David C.; Brassil, John; Brockbank, Kelvin G. M.; Burroughs, Andrew; Isaacs, Dickon; Steibel, Dennis J.; Fraser, Richard; Harris, Stanley; Schein, Douglas
PA Organ Recovery Systems Inc., USA
SO PCT Int. Appl., 112 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002026034	A2	20020404	WO 2001-US26591	20010827
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2001086777	A5	20020408	AU 2001-86777	20010827
PRAI	US 2000-645525	A	20000825		
	WO 2001-US26591	W	20010827		

Related Case

AB An **organ perfusion** app. and method monitor, sustain and/or restore viability of **organs** and preserver **organs** for storage and/or transport. Other app. include an **organ** transporter, an **organ** cassette and an **organ** diagnostic device. The method includes **perfusing** the **organ** at hypothermic and/or normothermic **temps**., preferably after hypothermic **organ** flushing for **organ** transport and/or storage. The method can be practiced with prior or subsequent static or **perfusion** hypothermic exposure of the **organ**. **Organ** viability is restored by restoring high energy nucleotide (e.g., ATP) levels by **perfusing** the **organ** with a medical fluid, such as an oxygenated cross-linked Hb-based bicarbonate medical fluid, at normothermic **temps**. In **perfusion**, **organ perfusion** pressure is preferably controlled in response to a sensor disposed in an end of tubing placed in the **organ**, by a pneumatically pressurized medical fluid reservoir, providing **perfusion** pressure fine tuning, over pressurization preventing and emergency flow cut-off. In the hypothermic mode, the **organ** is perfused with a medical fluid, preferably a simple crystalloid soln. contg. antioxidants, intermittently or in slow continuous flow. The medical fluid may be fed into the **organ** from an intermediary tank having a low pressure head to avoid **organ** over pressurization. Preventing over pressurization prevents or reduces damage to vascular endothelial lining and to **organ** tissue in general. Viability of the **organ** may be automatically monitored, preferably by monitoring characteristics of the medical fluid perfusate. The **perfusion** process can be automatically controlled using a control program.

AN 132:248273 CA
TI Apparatus and method for maintaining and/or restoring viability of **organs**
IN Owen, Donald R.; Kravitz, David C.
PA Life Science Holdings, Inc., USA
SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000018226	A2	20000406	WO 1999-US22582	19990929
	WO 2000018226	A3	20000525		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2342944	AA	20000406	CA 1999-2342944	19990929
	AU 9962748	A1	20000417	AU 1999-62748	19990929
	EP 1117293	A2	20010725	EP 1999-949991	19990929
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002525290	T2	20020813	JP 2000-571754	19990929
PRAI	US 1998-162128	A	19980929		
	WO 1999-US22582	W	19990929		

AB An **organ perfusion** app. and method for monitoring, sustaining and/or restoring the viability of the **organ** and for preserving the **organ** for storage and/or transport **perfuse** the **organ** at normothermic **temps**. (normothermic **perfusion** mode), preferably prior to and followed by **organ perfusion** at hypothermic **temps**. (hypothermic **perfusion** mode) for transport and/or storage of the **organ**. The restoring of **organ** viability is accomplished by restoring high energy nucleotide (e.g., ATP) levels in the **organ**, which were reduced by warm ischemia time, by **perfusing** the **organ** with a medical fluid, such as an oxygenated cross-linked Hb-based bicarbonate medical fluid, at normothermic **temps**. In the normothermic **perfusion** mode, **organ perfusion** pressure is preferably controlled in response to a sensor disposed in an end of tubing placed in the **organ**, by a pneumatically pressurized medical fluid reservoir which may be used in combination with a stepping motor/cam valve which provides for **perfusion** pressure fine tuning, preventing over-pressurization and providing emergency flow cut-off. In the hypothermic mode, the **organ** is perfused with a medical fluid, preferably a simple crystalloid soln. augmented with antioxidants, intermittently or at a slow continuous flow rate. The medical fluid may be fed into the **organ** by gravity from an intermediary tank which has a low pressure head so over-pressurization of the **organ** is avoided. In either mode, preventing over-pressurization prevents and/or reduces damage to the vascular endothelial lining and to the **organ** tissue in general. Also, viability of the **organ** may be automatically monitored in either mode, preferably by monitoring fluid characteristics of the medical fluid that has been perfused through the **organ**, such fluid characteristics being indicative of **organ** viability. The **perfusion** process can be automatically controlled using a control program.

L5 ANSWER 11 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-759308 [82] WPIDS
CR 2002-394427 [42]; 2002-519114 [55]
DNC C2002-214606
TI **Perfusion** solution for preserving **organs** and tissues comprises a substance that stimulates cellular energy production under anaerobic conditions and an oxygen free radical scavenger.

DC A96 B04 D16 D22
IN ARRINGTON, B O; POLYAK, M
PA (PIKE-N) PIKE LAB INC
CYC 1
PI US 2002115593 A1 20020822 (200282)* 7p
ADT US 2002115593 A1 Provisional US 2000-240024P 20001013, US 2001-976785 20011012
PRAI US 2000-240024P 20001013; US 2001-976785 20011012
AB US2002115593 A UPAB: 20021220
NOVELTY - Aqueous machine **perfusion** solution for preserving **organs** and tissues comprises a substance (a) that stimulates cellular energy production under anaerobic conditions, and an oxygen free radical scavenger (b).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:
(1) an **organ** or tissue preserved in the above solution; and
(2) a **perfusion** machine comprising a chamber through which the above solution circulates.

USE - The solution is useful for preserving **organs** and tissues for **transplantation** by pouring the solution into a chamber maintained at low temperature (especially 2-10 deg. C) or physiological temperature (especially 37 deg. C), circulating the solution through the chamber, placing a cadaveric or living donor **organ** or tissue in the chamber and flushing the **organ** or tissue with the solution.

ADVANTAGE - Compared with existing preserving media, the solution gives better preservation in terms of **organ** and tissue viability and function.

Dwg.0/0

L5 ANSWER 24 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-471677 [50] WPIDS
DNC C2002-134176
TI New flush solution, useful for preservation of cells, comprises water, saccharide, component with pH buffer properties and component with calcium transport blocking properties or anti-calcium action activity.

DC B04 B05 D16 D22 E19
IN LODGE, J P A; POTTS, D
PA (UYLE-N) UNIV LEEDS
CYC 99
PI WO 2002041696 A1 20020530 (200250)* EN 65p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW
AU 2002015131 A 20020603 (200263)
ADT WO 2002041696 A1 WO 2001-GB5102 20011120; AU 2002015131 A AU 2002-15131 20011120
FDT AU 2002015131 A Based on WO 200241696
PRAI GB 2000-28414 20001122
AB WO 200241696 A UPAB: 20020807
NOVELTY - A flush solution comprises (mmol/l):
(a) water (a) for injection;
(b) at least one saccharide (50 - 150);
(c) at least one component with pH buffer properties (15 - 75);

(d) at least one component with calcium transport blocking properties or an anti-calcium action activity (0.0005 - 0.1); and

(e) and a thromboxane inhibitor (0.3 - 1).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) preparation of the flush preservation solution involving adding the components in sequence to water with the exception of at least one component with colloid osmotic properties and unstable components if any, dissolving, adding the component with colloid osmotic properties and unstable components and making the solution nearly up to volume and finally making up to volume to regulate pH, sterilizing and cooling;

(2) kit of parts comprising the flush preservation solution together with additional components; and

(3) method for flushing, preserving or flush preservation of cells in living cells tissues or **organs** involving contacting the cells, tissues or **organs** with the flush preservative solution for simple hypothemic storage by immersion or **perfusion** at a pressure of up to 200 (preferably up to 100) mmHg. The cells, tissues or **organs** are flushed with the solution, removed from the normal locus, cooled (preferably at 0 - 4 deg. C) and stored.

ACTIVITY - Vasotropic; Cardiant. No test data provided.

MECHANISM OF ACTION - None given.

USE - As flush solution, preservation solution or flush preservation solution for the preservation of cells in the absence of a blood supply (e.g. intra abdominal **organs** such as kidney, liver, pancreas, intestine and bowel); for preserving muscular **organs** such as heart for preventing damage to **organs**, living tissues and cells; in **transplantation** including **organs** from heart beating or non-heart beating donors, in surgery including any situation of warm or cold ischemia, cardioplegia or open heart surgery, whole limb or whole body preservation, in experimentation on living tissues or in culturing and preserving engineered cells, tissues, **organs**, limbs or the whole body, for storage of flushed cells, tissues and **organs** (all claimed).

ADVANTAGE - The solution enables extended preservation of cells provides improved versatility effectiveness and reperfusion in **transplantation** and in surgery.

Dwg.0/10

L5 ANSWER 26 OF 197 WPIDS (C) 2003 THOMSON DERWENT

AN 2002-435153 [46] WPIDS

DNC C2002-123540

TI Apparatus for **perfusing** and holding **organ**, useful for avoiding damage during **perfusion** while monitoring, sustaining or restoring viability of **organ**, or for preserving **organ** during storage or transport, is new.

DC A96 B04 D22

IN BRASSIL, J; BROCKBANK, K G M; BURROUGHS, A; FRASER, R; HARRIS, S; ISAACS, D; KRAVITZ, D C; OWEN, D R; SCHEIN, D; STEIBEL, D J

PA (ORGA-N) ORGAN RECOVERY SYSTEMS INC

CYC 94

PI WO 2002026034 A2 20020404 (200246)* EN 112p

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2001086777 A 20020408 (200252)

ADT WO 2002026034 A2 WO 2001-US26591 20010827; AU 2001086777 A AU 2001-86777 20010827

FDT AU 2001086777 A Based on WO 200226034

PRAI US 2000-645525 20000825

AB WO 200226034 A UPAB: 20020722

NOVELTY - An apparatus for **perfusing** at least one **organ**

, and for holding an **organ** for at least one of **perfusion**
, storage, diagnosis and transport of the **organ**, is new.

DETAILED DESCRIPTION - The apparatus for holding an **organ** comprises:

(a) a portable housing; and

(b) an **organ** supporting surface configured to support an **organ** within the housing, where the portable housing is configured to be received by at least one of an **organ perfusion** device, an **organ** transporter and an **organ** diagnostic device, and includes openings configured to allow tubing to pass through it, and be connected to the **organ**, and where a bottom portion of the housing is liquid-tight.

The apparatus for **perfusing** at least one **organ** comprises:

(i) at least one medical fluid reservoir;

(ii) a fluid pathway connected to the reservoir and connectable to the **organ**;

(iii) a first heat exchanger in heat exchange communication with the medical fluid reservoir; and

(iv) a controller for controlling the first heat exchanger to allow **perfusion** of the **organ** with medical fluid at a first hypothermic temperature and a second hypothermic temperature lower than the first hypothermic temperature.

INDEPENDENT CLAIMS are also included for the following:

(1) saleable kits comprising the apparatus above;

(2) a method of controlling **perfusion** of at least one **organ** with medical fluid;

(3) a recording medium that stores a control program for use by **perfusion** system that **perfuses** at least one **organ** with a medical fluid, the control program including instructions for the method of (2);

(4) a method of at least one of maintaining and restoring the viability of at least one **organ** subjected to period of ischemia or hypoxia;

(5) methods of **perfusing** an **organ**;

(6) a method of transporting and storing an **organ**;

(7) a **perfusion** solution kit comprising a saleable package containing at least one first container holding a first **perfusion** solution for hypothermic **perfusion** at a first temperature and at least one second container for holding a second, different **perfusion** solution for hypothermic **perfusion** at a second temperature lower than the first temperature;

(8) a control system for controlling **perfusion** to at least one **organ** with a medical fluid to maintain viability of the least one **organ**;

(9) a portable transporter for holding a portable housing comprising: a base portion configured to facilitate a upright position of the transporter; a top portion; a pump; a power supply; and a compartment for holding a portable housing, where the portable housing is configured to contain at least one **organ**;

(10) a method of controlling operation of a transporter;

(11) an **organ** assessment system comprising: an **organ** support and at least one **organ** parameter sensor; an **organ perfusing** apparatus, where the system is adapted to assess the **organ** parameters while maintaining the status of the **organ** doing such assessment;

(12) a method of assessing an **organ**;

(13) a method of analyzing the viability of an **organ**;

(14) a method of improving an **organ** of a tissue;

(15) a method of determining viability of at least one **organ**
;

(16) a method of remotely monitoring an **organ**;

(17) a kit comprising: a saleable package containing a set of tubes where the set of tubes are configured to connect an **organ** to an

organ perfusion apparatus; and
(18) a method of analyzing factors involved in **organ transplantation** or implantation by comparing outcomes of **organs transplants** in recipients, and comparing **organ** history during transport and/or storage.
USE - The apparatus is useful for preventing overpressurization, which prevents or reduces damages to vascular endothelia lining and to **organ** tissue in general. The apparatus is particularly useful for avoiding damage to an **organ** during **perfusion** while monitoring, sustaining and/or restoring the viability of the **organ**. It is also useful for preserving the **organ** during storage and/or transport.
DESCRIPTION OF DRAWING(S) - The figure shows the organ perfusion apparatus.
organ perfusion apparatus 1
housing 2
reservoir access door 3
front cover 4
control and display areas for monitoring and controlling perfusion 5a
control and display areas for monitoring and controlling perfusion 5b
control and display areas for monitoring and controlling perfusion 5c
control and display areas for monitoring and controlling perfusion 5d
organ chamber 40
tubing 50c
a pump for filtration 80
filter unit 82
pump 90
tubing 91
CO2 scrubber/O2 membrane 100
oxygenator 110
tubing 121
Dwg.1/31

L5 ANSWER 42 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-355721 [37] WPIDS
CR 1996-020279 [02]; 1996-020314 [02]; 1998-075906 [07]; 2000-204822 [18]
DNN N2001-258442 DNC C2001-110350
TI Functional potential determination method for **organ** to be **transplanted**, involves measuring parameter of fluid derived from explanted **organs**, such as **organ** product and/or perfusate and comparing with reference value.
DC B04 P31
IN BRASILE, L
PA (BREO-N) BREONICS INC
CYC 95
PI WO 2001037719 A2 20010531 (200137)* EN 34p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001043021 A 20010604 (200153)
US 6375613 B1 20020423 (200232)
EP 1233709 A2 20020828 (200264) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
ADT WO 2001037719 A2 WO 2000-US41867 20001103; AU 2001043021 A AU 2001-43021 20001103; US 6375613 B1 CIP of US 1994-246801 19940520, Div ex US 1996-670569 19960626, CIP of US 1997-992284 19971217, US 1999-434952 19991105; EP 1233709 A2 EP 2000-992312 20001103, WO 2000-US41867 20001103
FDT AU 2001043021 A Based on WO 200137719; US 6375613 B1 Div ex US 5699793, CIP of US 6024698; EP 1233709 A2 Based on WO 200137719
PRAI US 1999-434952 19991105; US 1994-246801 19940520; US 1996-670569

19960626; US 1997-992284 19971217

AB WO 200137719 A UPAB: 20021031
NOVELTY - Determining the functional potential of an **organ** to be **transplanted**, comprising measuring a parameter of a fluid derived from an explanted **organ** e.g. from **organ** product and/or perfusate, to obtain a value, is new. The value is compared with reference values indicating normal **organ** function to determine if the obtained value is within the indicated reference values.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) severity determination method of ischemic damage to an **organ** intended for **transplant**;
(2) severity determination method of acute tubular necrosis of kidney intended for **transplant**;
(3) determination method of extent of damage to vascular endothelium of **transplantable organ**;
(4) identifying method of primary non-function in an **organ** intended for **transplant**
USE - For determining functional potential of an **organ** to be **transplanted**, such as kidney, liver, pancreas, heart, lung, small bowel and eye. Also useful for determining extend of damage to vascular, endothelium of **organs**, level of oxidation capacity of **organs**, severity of ischemic damage to **organs**, severity of acute tubular necrosis of kidney, extent of damage to vascular endothelium of **transplanted organ** and identifying primary non-function of **organ** (claimed).
ADVANTAGE - The method effectively predicts **transplant** outcomes, using information regarding ongoing metabolism of **organ** during warm temperature **perfusion**.
Dwg.0/2

L5 ANSWER 43 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-328870 [34] WPIDS
DNC C2001-100936
TI Apparatus for mechanical **organ perfusion** during transport using pump with valve and membrane and compressed air cylinder.
DC D22 P34
IN DOORSCHOT, B M; JASPERS, J E N
PA (UNAM) UNIV AMSTERDAM
CYC 92
PI WO 2001033959 A2 20010517 (200134)* EN 17p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
NL 1013524 C2 20010509 (200147)
AU 2001017413 A 20010606 (200152)
EP 1229788 A2 20020814 (200261) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
ADT WO 2001033959 A2 WO 2000-NL814 20001108; NL 1013524 C2 NL 1999-1013524 19991108; AU 2001017413 A AU 2001-17413 20001108; EP 1229788 A2 EP 2000-980113 20001108, WO 2000-NL814 20001108
FDT AU 2001017413 A Based on WO 200133959; EP 1229788 A2 Based on WO 200133959
PRAI NL 1999-1013524 19991108
AB WO 200133959 A UPAB: 20010620
NOVELTY - The apparatus (1) comprises an **organ** receptacle (2), propulsion means for moving the perfusate (7) from the liquid container (8) through the **organ** receptacle, and oxygenation means for **organ** receptacle aeration. The propulsion means can be a compressed air cylinder (3) and a pump with a valve (4) and a membrane (5) which can move in liquid container. The compressed air cylinder

additionally aerates the **organ** receptacle.

DETAILED DESCRIPTION - The apparatus (1) comprises an **organ** receptacle (2), propulsion means for moving the perfusate (7) from the liquid container (8) through the **organ** receptacle, and oxygenation means for **organ** receptacle aeration. The propulsion means can be a compressed air cylinder (3) and a pump with a valve (4) and a membrane (5) which can move in liquid container.

The compressed air cylinder additionally aerates the **organ** receptacle.

The valve (4) allows or blocks the flow of compressed air to the membrane. The membrane undergoes a reciprocating motion causing the perfusate to be pushed from the liquid container to the **organ** receptacle inlet pipe (18). When transporting livers two inlet conduits (18',18'') are used to feed the liver artery and portal vein.

The valve is provided with a vent (11) which allows a reflux of the compressed air.

USE - For mechanical **perfusion** of a donor's **organ** during its transport.

ADVANTAGE - The apparatus is simple and inexpensive and achieves a higher success rate of **transplantation** and increases the number of usable donor **organs**.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic diagram of the apparatus.

Apparatus 1

Organ receptacle 2

Cylinder 3

Valve 4

Membrane 5

Perfusate 7

Liquid container 8

Vent 11

Inlet pipe 18

Inlet conduits 18', 18''

Dwg.1/3

L5 ANSWER 45 OF 197 WPIDS (C) 2003 THOMSON DERWENT

AN 2001-102973 [11] WPIDS

DNC C2001-030207

TI Composition for donor **organ** preservation comprises a crystalloid based solution of polyethylene glycol-hemoglobin and at least one electrolyte, soluble protein, nutritional formulation and agent acting on the cardiovascular system.

DC A96 B05 D22

IN MILLIKEN, J C; PURDY, R E; SERNA DANNY, L

PA (REGC) UNIV CALIFORNIA

CYC 92

PI WO 2001001774 A1 20010111 (200111)* EN 71p

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000057506 A 20010122 (200125)

EP 1207753 A1 20020529 (200243) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

KR 2002059255 A 20020712 (200306)

ADT WO 2001001774 A1 WO 2000-US16895 20000619; AU 2000057506 A AU 2000-57506 20000619; EP 1207753 A1 EP 2000-942962 20000619, WO 2000-US16895 20000619; KR 2002059255 A KR 2001-716195 20011217

FDT AU 2000057506 A Based on WO 200101774; EP 1207753 A1 Based on WO 200101774

PRAI US 1999-143709P 19990714; US 1999-139819P 19990617

AB WO 200101774 A UPAB: 20010224

NOVELTY - Composition for donor **organ** preservation for **transplantation** comprises a crystalloid based solution of constituents including PEG-Hb, one or more physiologically essential electrolytes, at least one soluble protein, at least one nutritional formulation and at least one agent acting on the cardiovascular system.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) composition for donor **organ** preservation for **transplantation** comprising a polyethylene glycol substituted bovine hemoglobin based solution for the purpose of ex vivo donor **organ** preservation, to preserve donor human and animal **organs**, ex vivo, prior to **transplantation**;

(2) composition for donor **organ** preservation for **transplantation** of a donor **organ** comprising an oxygen, nutritional and electrolyte environment for the tissue of the donor **organ** to provide ex vivo preservation such that the donor **organ** regains acceptable function post **transplantation**;

(3) a method for harvesting donor **organs** comprising excising an **organ**, **perfusing** the **organ** with a normokalemic hypocalcemic bovine PEG-Hb based solution and preserving the **organ** at a particular temperature for a predetermined time while continuing **perfusion** with the solution in an oxygenated environment.

USE - The crystalloid based solution is used for ex vivo preservation of donor **organ** allografts during transportation for the purpose of **transplantation**, for in vivo myocardial preservation during open-heart surgery or as a blood substitute or blood replacement (all claimed) e.g. in trauma induced blood loss. Composition comprising a polyethylene glycol substituted bovine hemoglobin based solution is useful for ex vivo human and animal donor **organ** preservation prior to **transplantation**. Composition comprising an oxygen, nutritional and electrolyte environment for tissue of donor **organs** provide ex vivo preservation so that the donor **organ** regains acceptable function post **transplantation**. Also for cardioplegia or hypothermic cardiac arrest.

ADVANTAGE - The compositions and method provide oxygen, a carbohydrate energy source, continuous metabolite wash out, and continuous **perfusion** with an isotonic, normokalemic, hypocalcemic solution that drastically improves myocardial preservation over current techniques. Hypothermic **perfusion** preservation of rabbit heart using the invention for periods of 8 hours was shown to improve myocardial preservation and left ventricular function compared to 4 hours of hypothermic immersion storage in saline solution (considered to be the standard of care). In addition, hypothermic **perfusion** preservation of the rabbit heart using the invention for periods of 8 hours was also shown to produce left ventricular function that was superior over fresh control rabbit hearts immediately after removal from the chest.

Dwg.0/5

L5 ANSWER 46 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-081569 [10] WPIDS
DNC C2001-023716
TI Pressure-tight vessel for conservation of tissues and **organs** for re- or **transplantation** has cooler, unit for enriching **perfusion** solution with oxygen and **perfusion** pump connected to receptacle for tissue or **organ**.

DC D22
IN BARTMANN, A; BERG, R
PA (BART-I) BARTMANN A; (BERG-I) BERG R
CYC 1
PI DE 19922310 A1 2000[illegible]30 (200110)* 3p
ADT DE 19922310 A1 DE 1999-19922310 19990514
PRAI DE 1999-19922310 19990514

NPA

AB DE 19922310 A UPAB: 20010220
NOVELTY - Pressure-tight vessel for conservation of tissues and **organs** has a first inlet for a **perfusion** solution (I) and a second inlet for oxygen (O2); and contains a unit for enriching (I) with O2, a **perfusion** pump, a receptacle for the tissue or **organ**, a unit for discharging (I) that has flowed through the tissue or **organ** and a unit for cooling the inside of the vessel.
USE - The equipment is used for conservation of tissues and **organs** for re- or **transplantation**.
ADVANTAGE - Existing equipment is used for cooling the tissue or **organ** and subjecting it to an O2 atmosphere under pressure. However, **perfusion** with a suitable solution is also necessary. The present equipment allows tissues or **organs** to be kept for longer periods.
DESCRIPTION OF DRAWING(S) - The drawing shows a sketch of the equipment.
Vessel 10
First inlet for **perfusion** solution 12
Second inlet for O2 14
Enrichment unit 16
Perfusion pump 18
Receptacle for tissue or **organ** 20
Unit for discharging solution that has flowed through the tissue or **organ** 22
Cooler 24
Compressed air inlet 26
Outlet for chamber gas 28
Outlet for excess oxygen from enrichment unit 30
Outlet for used **perfusion** solution 32
Dwg.1/1

L5 ANSWER 52 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-665054 [64] WPIDS
CR 2003-129153 [12]
DNC C2000-201490
TI Exsanguinous metabolic support system, useful e.g. for preserving **organs** intended for **transplantation**, includes **perfusion** with warm nutrient solution.
DC B04 D16
IN BRASILE, L
PA (BREO-N) BREONICS INC
CYC 92
PI WO 2000061166 A1 20001019 (200064)* EN 62p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2000043454 A 20001114 (200108)
EP 1181032 A1 20020227 (200222) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2000061166 A1 WO 2000-US9894 20000413; AU 2000043454 A AU 2000-43454 20000413; EP 1181032 A1 EP 2000-923303 20000413, WO 2000-US9894 20000413
FDT AU 2000043454 A Based on WO 200061166; EP 1181032 A1 Based on WO 200061166
PRAI US 1999-129257P 19990414
AB WO 200061166 A UPAB: 20030218
NOVELTY - An exsanguinous metabolic support system (A) for maintaining an isolated **organ**, tissue or section (B) in a nearly normal metabolic state, is new.
DETAILED DESCRIPTION - (A) comprises:
(i) a **perfusion** subsystem comprising paths for circulating warm **perfusion** solution able to support (B);

(ii) an **organ** chamber for (B), mounted in the **perfusion** path;

(iii) a controlled gassing system for regulating respiratory gases and the pH of the **perfusion** solution; and

(iv) a controller for maintaining temperature of the solution at 25-37 deg. C.

INDEPENDENT CLAIMS are also included for the following:

(a) a method for maintaining (B) for **transplantation** by flushing with a non-physiological buffer at 18-37 deg. C to remove blood (products), **perfusing** in a warm preservation system that maintains a nearly normal rate of metabolism, and monitoring functional integrity of (B);

(b) a method for delivering a therapeutic agent (I) to an isolated (B) by flushing as in (a) and maintaining (B) at 25-37 deg. C in a recirculating **perfusion** solution to which (I) has been added, at a nearly normal metabolic state, then returning (B) to the body;

(c) a solution (S) for use in (A);

(d) a method for warm preservation of (B) for **transplantation** by flushing at 18-37 deg. C, with (S); and

(e) a method for storing (B) intended for **transplant**, by flushing and **perfusing** as in (a), then storing at 4-8 deg. C.

USE - (A) is used for:

(i) long-term maintenance of (A) intended for **transplantation**;

(ii) resuscitation and repair of **organs** that have suffered warm ischemic damage (e.g. **organs** taken from cadavers in which the heart has stopped beating);

(iii) for delivering pharmaceuticals (genes, immunomodulators or chemotherapeutic agents) to isolated **organs**; and

(iv) for predicting post-**transplant organ** function.

ADVANTAGE - The system maintains (A) at nearly physiological conditions for a long time and so ensures retention of functional integrity (which can be assessed during storage). **Organs** treated with a warm **perfusion** solution will survive longer during subsequent cold storage compared with those put into cold storage immediately after isolation.

Dwg.0/2

L5 ANSWER 82 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1998-075906 [07] WPIDS
CR 1996-020279 [02]; 1996-020314 [02]; 2000-204822 [18]; 2001-355721 [37]
DNN N1998-060674 DNC C1998-025321
TI Monitoring functional characteristics of **organs** prior to **transplantation** - by warm preservation system in which parameters of circulated perfusate and **organ** product may be measured and compared to reference values.
DC B04 D16 D22 P31
IN BRASILE, L
PA (BREO-N) BREONICS INC
CYC 1
PI US 5699793 A 19971223 (199807)* 14p
ADT US 5699793 A CIP of US 1994-246801 19940520, US 1996-670569 19960626
PRAI US 1996-670569 19960626; US 1994-246801 19940520
AB US 5699793 A UPAB: 20020521
The following are claimed: (1) prospectively determining the potential function of an **organ** post-**transplantation**, by measuring functional characteristics related to **organ** metabolism while the **organ** is being perfused in an ex vivo warm preservation process/system at or near normal rate of metabolism, comprising: (a) measuring parameters of a fluid (selected from **organ** product and/or circulated perfusate) during ex vivo warm preservation, and (b) relating the measured parameters to reference interval values, where the values of measured parameters outside the

reference intervals may be indicia of **organ** damage or injury which may affect the function of the **organ** post-**transplantation**; (2) monitoring functional characteristics of an **organ** which is being preserved in an ex vivo warm preservation process/system at near normal rate of metabolism, comprising (1a), during ex vivo warm preservation.

USE - The method allows monitoring of the functional characteristics of **organs** prior to **transplantation**, and thus prospective determination of the potential function of the **transplanted organ**. Until now, the only way to evaluate the functional capabilities of these **organs** was to **transplant** them.

ADVANTAGE - The method/system supports a level of metabolism ex vivo within or near the respective normal range in vivo and provides enough oxidative metabolism to result in the normal functional product of the **organ**.

Dwg.0/4

L5 ANSWER 84 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1998-032638 [03] WPIDS
DNC C1998-011124
TI Apparatus for administering chilled oxygenated nutrient - for in vitro conservation of viable **transplantable organs** has pressurised oxygen supply for pumping and oxygenating perfusate liquid supplied to **organ** in sealed chamber.
DC D22
IN GARDETTO, W W; HEACOX, J K; MATTHEWS, J L
PA (TRAN-N) TRANS DATA SERVICE INC
CYC 44
PI WO 9745527 A1 19971204 (199803)* EN 22p
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU BG BR BY CA CN CZ DE FI GE HU IS JP KR LT LV MD MX NO NZ PL RO RU SG SI SK UA US VN
AU 9730787 A 19980105 (199821)
EP 842261 A1 19980520 (199824) EN
R: DE ES FR GB
US 5965433 A 19991012 (199949)
MX 9801137 A1 19981101 (200022)
ADT WO 9745527 A1 WO 1997-US9000 19970528; AU 9730787 A AU 1997-30787 19970528; EP 842261 A1 EP 1997-925738 19970528, WO 1997-US9000 19970528; US 5965433 A US 1996-652696 19960529; MX 9801137 A1 MX 1998-1137 19980210
FDT AU 9730787 A Based on WO 9745527; EP 842261 A1 Based on WO 9745527
PRAI US 1996-652696 19960529
AB WO 9745527 A UPAB: 19980119

Perfusion apparatus has a sealed chamber (18) for receiving an **organ** (12) and an oxygenator (16) that is supplied separately with a liquid perfusate and pressurised oxygen.

A control valve alternately supplies compressed oxygen to a pneumatic actuator and one side of the piston of a positive displacement perfusate pump (24) operated by the actuator (22). Perfusate on the other side of the piston is connected by a conduit to the oxygenator. Separate return conduits (84, 86) connect the sealed chamber to the perfusate in the oxygenator and the pump.

The oxygenator has two compartments each divided by an oxygen permeable membrane into chambers for perfusate and oxygen. The two perfusate chambers are in flow communication. One is connected to the perfusate supply and the other to sealed chamber. The two oxygen chambers communicate with the oxygen supply.

USE - The apparatus is used for administering chilled oxygenated nutrient for in vitro conservation of viable **transplantable organs**.

ADVANTAGE - The apparatus can sustain pumping for 24 hours without changing the oxygen supply. No membranes, diaphragms or electrical power are required to deliver the perfusate.

Dwg.1/7

L5 ANSWER 92 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1996-455054 [45] WPIDS
DNN N1996-383525 DNC C1996-142645
TI **Organ** storage and transport has contoured pads for **organ** - in container within temp. controlled portable module, with connection to **perfusion** appts..
DC D22 Q74 Q75
IN FAHY, G M
PA (LIFE-N) LIFE RESUSCITATION TECHNOLOGIES INC; (ORGA-N) ORGAN INC; (LRTL-N) LRT INC
CYC 25
PI WO 9630111 A1 19961003 (199645)* EN 47p
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA CN JP KR SG
AU 9653764 A 19961016 (199706)
US 5586438 A 19961224 (199706) 17p
EP 817670 A1 19980114 (199807) EN
R: BE CH DE ES FR GB IE IT LI NL SE
ADT WO 9630111 A1 WO 1996-US4235 19960327; AU 9653764 A AU 1996-53764 19960327; US 5586438 A US 1995-411274 19950327; EP 817670 A1 EP 1996-910614 19960327, WO 1996-US4235 19960327
FDT AU 9653764 A Based on WO 9630111; EP 817670 A1 Based on WO 9630111
PRAI US 1995-411274 19950327
AB WO 9630111 A UPAB: 19961111
Device for transporting or storing an **organ** comprises an **organ** container (11) with cover (12) and at least one recessed and contoured portion (13) for the **organ** (223); and a temp. controlled portable storage module (200) for receiving the **organ** container (11). A further device for static storage and **perfusion** storage comprises **organ** container with assembly (122) for connecting **organ** to **perfusion** appts.; and temp. controlled storage module with cooling material in cavity, **organ** container cavity and passageway through outer wall for connection to **perfusion** appts.
USE - The device can be used for the storage and transportation of **organs** for **transplant**, with temp. control and **perfusion** capability.
ADVANTAGE - Padding of **organs** is less harmful to the **organs** than known methods such as towels or gauze. **Organ** movement is restrained. Storage temp. can be varied dependent on coolant chosen, giving superior storage conditions above 0deg.C, compared with storage in melting ice. The appts. **perfuses organs** at lower cost and lower risk. Rapid temp. rise does not occur when **perfusion** is terminated.
Dwg.3/12

L5 ANSWER 94 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1996-454883 [45] WPIDS
DNN N1996-383426 DNC C1996-142544
TI **Organ perfusion** and evaluation apparatus - **perfuses**, resuscitates and monitors **organ** performance and adjusts **perfusion** rate accordingly.
DC D22 S05
IN ARNAUD, F; FAHY, G M
PA (AMNA-N) AMERICAN NAT RED CROSS; (LIFE-N) LIFE RESUSCITATION TECHNOLOGIES INC; (ORGA-N) ORGAN INC
CYC 23
PI WO 9629865 A1 19961003 (199645)* EN 60p
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA CN JP KR SG
AU 9653754 A 19961016 (199706)
ADT WO 9629865 A1 WO 1996-US4205 19960327; AU 9653754 A AU 1996-53754 19960327

FDT AU 9653754 A Based on WO 9629865
PRAI US 1995-411227 19950327
AB WO 9629865 A UPAB: 19961111
Method for **perfusing** an **organ** with blood or other oxygen carrying substance, comprising connecting the **organ** to a fluid system with a controller and monitor; flowing fluid into the **organ** and **perfusing** fluid through it; monitoring physiological performance (gas tension, pH, temp.,volume); communicating above characteristics to computer to control the response as a function of monitored data. Two appts. for **perfusing** an **organ** are also claimed.

USE - **Perfusing** an **organ** to maintain the viability of the **organ** and allow its evaluation. It can also resuscitate **organs**.

ADVANTAGE - **Organs** that would have been useless for **transplant** can be resuscitated if they are found to be viable. Low perfusate volume is required. Lost fluid volume can be replenished. Different **organs** can be perfused, such as kidney, liver, pancreas. Compounds other than blood compounds can be used. The **organ** is not floating. Environmental conditions are taken into consideration by the device. The performance of the **organ** is monitored.

Dwg.1/17

L5 ANSWER 96 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1996-371149 [37] WPIDS
CR 1992-166859 [20]; 1995-036133 [05]; 1996-455027 [45]
DNN N1996-312267 DNC C1996-117723
TI Preserving **organs** and prolonging their viability in live patients or cadaver(s) - by lowering temp. of **organs** by introducing cooled fluid through cannula and inhibiting free radical damage by introducing free radical scavengers.
DC B05 D22 P34
IN GOLDMAN, R M; KLATZ, R M
PA (LIFE-N) LIFE RESUSCITATION TECHNOLOGIES INC
CYC 23
PI WO 9623544 A1 19960808 (199637)* EN 41p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA CN JP KR SG
AU 9650207 A 19960821 (199648)
US 5584804 A 19961217 (199705) 14p
US 5709654 A 19980120 (199810) 13p
US 5752929 A 19980519 (199827)
US 5827222 A 19981027 (199850)
KR 98047626 A 19980915 (199940)#
CN 1185278 A 19980624 (200256)#
ADT WO 9623544 A1 WO 1996-US1280 19960202; AU 9650207 A AU 1996-50207 19960202; US 5584804 A Div ex US 1990-595387 19901010, CIP of US 1992-886041 19920519, CIP of US 1993-69916 19930601, US 1995-383240 19950203; US 5709654 A Div ex US 1990-595387 19901010, CIP of US 1992-886041 19920519, CIP of US 1993-69916 19930601, Cont of US 1995-383240 19950203, US 1995-480256 19950607; US 5752929 A Div ex US 1990-595387 19901010, CIP of US 1992-886041 19920519, CIP of US 1993-69916 19930601, Cont of US 1995-383240 19950203, US 1995-476719 19950607; US 5827222 A Div ex US 1990-595387 19901010, CIP of US 1992-886041 19920519, CIP of US 1993-69916 19930601, CIP of US 1995-383240 19950203, US 1995-484601 19950607; KR 98047626 A KR 1996-66135 19961216; CN 1185278 A CN 1996-123910 19961216
FDT AU 9650207 A Based on WO 9623544; US 5584804 A Div ex US 5149321, CIP of US 5234405, CIP of US 5395314; US 5709654 A Div ex US 5149321, CIP of US 5234405, CIP of US 5395314, Cont of US 5584804; US 5752929 A Div ex US 5149321, CIP of US 5234405, CIP of US 5395314, Cont of US 5584804; US 5827222 A Div ex US 5149321, CIP of US 5234405, CIP of US 5395314, CIP of US 5584804

PRAI US 1995-484601 19950607; US 1995-383240 19950203; US 1990-595387 19901010; US 1992-886041 19920519; US 1993-69916 19930601; US 1995-480256 19950607; US 1995-476719 19950607; KR 1996-66135 19961216; CN 1996-123910 19961216

AB WO 9623544 A UPAB: 20020903
A method of treating **organs** to preserve them and prolong their viability in live patients and cadavers comprises: (a) cannulating a body cavity of the patient or cadaver; and (b) **perfusing** the body cavity by: (1) lowering the temp. of the **organs** in the cavity below body temp. by introducing cooled fluid through the cannula; and (2) inhibiting free radical damage in the **organs** by introducing free radical scavengers through the cannula; so the metabolic rates of the **organs** are slowed and the **organs** remain viable.

Also claimed are: (1) a method of treating **organs** as above but using an instrument in place of a cannula to introduce the fluid and scavengers; and (2) a method of treating brain and/or associated nervous tissue injury comprises: (a) establishing an artificial circulation in the circulatory system of a patient; (b) lowering the metabolism of the brain by introducing cooled fluid below body temp. to the brain and/or associated tissue; and (c) oxygenating the brain by introducing oxygen carrying agents into the artificial circulation; so the patient remains substantially neurologically intact.

USE - The method is esp. suitable for treating brain and associated nervous tissue injuries and preserving **organs** in brain dead humans or cadavers to keep them viable and suitable for harvesting for subsequent **transplantation**. The method can also be used for treating injuries suffered as a result of ischaemic injury due to cardiac arrest, major trauma, suffocation, drowning, electrocution, blood loss and toxic poisoning, e.g. by cyanide or carbon monoxide..

ADVANTAGE - The method enables non-invasive treatment of ischaemic and anoxic brain injuries immediately upon cardiac arrest to keep patient neurologically intact. Permanent irreversible damage to brain is avoided by limiting free radical damage. The brains critical 4 min. viability window is extended.

Dwg.0/5

L5 ANSWER 106 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1996-020279 [02] WPIDS
CR 1996-020314 [02]; 1998-075906 [07]; 2000-204822 [18]; 2001-355721 [37]
DNC C1996-006941
TI Determn. of potential function, after **transplantation**, of **organs** - preserved in a warm **perfusion** system at nearby normal metabolic rate by measuring parameters of **organ** products or perfused soln..
DC B04 D22 P32
IN BRASILE, L; CLARKE, J
PA (VECT-N) VEC TEC INC
CYC 27
PI WO 9531897 A1 19951130 (199602)* EN 40p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU BR CA CN FI JP MX NO PL RU
AU 9525173 A 19951218 (199611)
AU 9525951 A 19951218 (199611)
EP 759692 A1 19970305 (199714) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
ADT WO 9531897 A1 WO 1995-US6290 19950518; AU 9525173 A AU 1995-25173 19950518; AU 9525951 A AU 1995-25951 19950518; EP 759692 A1 EP 1995-920526 19950518, WO 1995-US6290 19950518
FDT AU 9525173 A Based on WO 9531944; AU 9525951 A Based on WO 9531897; EP 759692 A1 Based on WO 9531897
PRAI US 1994-246801 19940520; US 1995-437155 19950517
AB WO 9531897 A UPAB: 20020521
The potential function of an **organ** after **transplantation** is determined by measuring functional characteristics related to

metabolism while the **organ** is being perfused in an ex vivo, warm preservation process/system at a nearby normal rate of metabolism. Parameters of **organ** products or circulating perfusate are compared with reference interval values (RIV) so that any measured value outside RIV may indicate **organ** damage or injury likely to affect function after **transplanting**. The same method can be used to monitor the function of stored **organs**. Also new is pump device connected to a warm preservation process/system that allows removal and collection (for analysis) of perfusate or **organ** product samples without affecting the integrity of the system.

USE - The method is applied to kidney heart, liver, small bowel, pancreas, lung and eyes, e.g. to evaluate functional status of **organs** after ischaemia, in a borderline donor or in any situation where the **organ** has been compromised.

ADVANTAGE - The warm preservation system maintains **organs** at 70-90% of the normal rate, allowing, for the first time, evaluation of their function (which is impossible in cold preservation systems because of inevitably low metabolic activity).

Dwg.0/4

L5 ANSWER 112 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1995-256075 [34] WPIDS
DNC C1995-116976
TI Preservation of living tissues e.g. livers or kidneys - by **perfusing** with two new perfusate solns. and cooling **organ** to liquid nitrogen temp...
DC B04 B05 D22
IN KABURAGI, T; SHIGEMATSU, A; SUEYOSHI, T; SUZUKI, S
PA (SHIG-I) SHIGEMATSU A; (SEIT-N) SEITAI KAGAKU KENKYUSHO KK
CYC 5
PI EP 664080 A1 19950726 (199534)* EN 22p
R: DE FR GB
CA 2141012 A 19950726 (199542)
JP 08034701 A 19960206 (199615) 9p
JP 08217601 A 19960827 (199644) 9p
ADT EP 664080 A1 EP 1995-100897 19950124; CA 2141012 A CA 1995-2141012 19950124; JP 08034701 A JP 1994-323651 19941201; JP 08217601 A JP 1995-137316 19950510
PRAI JP 1994-334222 19941215; JP 1994-23296 19940125; JP 1994-125741 19940516; JP 1994-323651 19941201
AB EP 664080 A UPAB: 19950904
Living tissue preservation comprising: (a) injecting a perfusate into a blood vessel leading to an **organ** of an animal to substitute the perfusate for blood in the **organ**; (b) cooling at least a part of the **organ**, resected as a tissue sample from the animal, to lower the temp. to liquid nitrogen temp.; and (c) keeping the tissue sample at this temp. for preservation.

A first saccharide soln. (51), which causes no haemolysis in blood, is injected as a first perfusate, into one or more blood vessels leading to the **organ**. A second saccharide soln. (52), contg. a saccharide (an aq. soln. of which is free from phase sepn. and does not produce crystals at liquid nitrogen temp.) and an organic solvent (a mixt. of which with water is free from phase sepn. and does not produce crystals at liquid nitrogen temp.), is then injected into one or more blood vessels leading to the **organ**, as a second perfusate to be substd. for the first perfusate in the **organ**

USE -The perfusates are useful for preservation, and treatment after preservation, of **organs**, esp. liver and kidney, for **organ transplantation** and clinical and non-clinical studies of living tissues.

ADVANTAGE - The processes allow maintenance of characteristics and function of cells constituting the tissue. They improve the chances of **organ transplantations** being successful, and improve the accuracy of studies of biological activity in the tissues.

Dwg.0/0

L5 ANSWER 117 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1995-019136 [03] WPIDS
DNC C1995-008641
TI Perfusate for storing under room temp. - consists of per fluoro-carbon cpd., glucose, insulin, allopurinol, superoxide dismutase reacted with polyethylene glycol, etc., used to reserve **transplantation organs**.
DC A96 D22
PA (KAWA-I) KAWAMURA A
CYC 1
PI JP 06305901 A 19941101 (199503)* 9p
ADT JP 06305901 A JP 1993-99775 19930426
PRAI JP 1993-99775 19930426
AB JP 06305901 A UPAB: 19950126
A perfusate consists of 0.1-10 (W/V)% of perfluorocarbon cpd., 1-20 mmol/L of glucose, 10-200 U/L of insulin, 0.1-5 mmol/L of allopurinol, 1-10 mg/L of SOD (superoxide dismutase) reacted with PED (polyethylene glycol), 1-10 mmol/L of adenosine, 1-20 mg/L of dexamethasone, 1-5 (W/V)% of hydroxyethyl starch, 140-145 mEq/L of sodium ions, 2-6 mEq/L of potassium ions, and 90-95 mEq/L of salt ions; and its pH is 7-8, and the osmotic pressure is 300 to 340 mOsm/L.
USE/ADVANTAGE - The perfusate is used to reserve **transplantation organs** under room temp. In storing the **transplantation organs** under room temperature, pref., the perfusate is subjected to oxygenation, and is supplied to the **organs** at a **perfusion** pressure of 60-100 mm Hg. Stable **perfusion** pressure can be maintained and sufficient oxygen can be supplied. Thus, **transplantation organs** can be stored at room temperature (10-30 deg.C) for a long period of time (1-20 hours).
Dwg.0/1

L5 ANSWER 119 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1994-260367 [32] WPIDS
DNC C1994-118985
TI Initial **perfusion** soln. for **organ transplantation** - contains potassium- and sodium- chloride-, phosphate- and hydrogen carbonate-ions, mannitol and hydroxyethyl starch.
DC A96 B05 D22 E19
PA (MORP) MORISHITA ROUSSEL KK
CYC 1
PI JP 06192001 A 19940712 (199432)* 6p
ADT JP 06192001 A JP 1992-350907 19921204
PRAI JP 1992-350907 19921204
AB JP 06192001 A UPAB: 19940928
Initial **perfusion** solns. for **organ transplantation** having 340-450 mOsm/L, pH 7.0-7.6 and contg. 39-139 mEq of K+, 0-17 mEq of Na+, 4-34 mEq of Cl-, 20-60 mM of phosphate, 0-14 mEq of HCO3-, 110-329 mM of mannitol and 30.0-80.0 g of hydroxyethyl starch, partic. average mol. wt. ~~of 200,~~000-900,000 dalton with substitution rate of 0.4-0.8.
Solns. contg. 2-6C carbonic acids (e.g. lactic, acetic, propionic and beta-hydroxybutyric, citric and gluconic acids) and short chain fatty acids up to 8C and their salts (e.g. Na and K), and hydroxyethyl starch with average molecular wt. of 200,000-900,000, pref. approx. 350,000-800,000 dalton are used to prepare the compsns.
USE/ADVANTAGE - Stable, low cost maintenance of functions of **organs** for **transplantation** in the initial stage of **perfusion**.
Dwg.0/5

L5 ANSWER 124 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1993-365085 [46] WPIDS

DNC C1993-161777
TI Initial perfusate with specified osmotic pressure for **organ** **transplantation** - comprises sodium and potassium cations chloride, phosphate and bi carbonate anions, mannitol and hydroxyethyl starch.
DC A96 B06 D22 E17 E37
PA (MORP) MORISHITA ROUSSEL KK
CYC 1
PI JP 05271001 A 19931019 (199346)* 5p
ADT JP 05271001 A JP 1992-86365 19920309
PRAI JP 1991-349172 19911205
AB JP 05271001 A UPAB: 19940103
Perfusate having osmotic pressure of 340-450 mOsm/L, pH 7.0-7.6 and composed of 39-139 mEq of Na+, 0-14 mEq of K+, 4-34 mEq of C1-, 20-60 mM of phosphate, 0-14 mEq of HCO3-, 110-329 mM of mannitol and 30.0-80.0g of hydroxyethyl starch, partic. having average mol. wt. of 200,000-900,000 dalton with substn. rate of 0.4-0.8 in one L.

Components of claimed compsn. are dissolved in distilled water to give average mol. wt. of 200,000-900,000 pref. 350-000-800,000. Their participating salts include phosphate, carbonate, lactate, acetate, citrate, and fatty acid up to 8C.

USE/ADVANTAGE - A stable and low cost initial perfusate with satisfactory maintenance of functions.

In an example, in 800ml of distilled water at about 50 deg.C 60g of hydroxyethyl starch having average mol. wt. of 429,000 with substitution rate of 0.55, 1.42g of KCl. 5.18g of KH2PO4. 1.43g of KH2PO4, 42.5 g of mannitol and 0.76g of NaHCO3 were dissolved and made 1,000 ml. The soln. was filtered and filled in a bottle and pasteurised with high pressure steam to give the perfusate.

Dwg.0/0

L5 ANSWER 129 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1993-045147 [05] WPIDS
CR 1996-151051 [15]; 1997-065217 [06]
DNN N1993-034643 DNC C1993-020354
TI Composite controlled cyto-protectant **perfusion** appts. for **organs** - comprises fluid reservoirs, **organ** container, fluid paths, fluid pumps, measuring means for temp., pH etc. and computer coupled via sensors.
DC D22 E16 E17 S05 T01 X25
IN FAHY, G M; KHIRABADI, B S; FAY, G M
PA (AMNA-N) AMERICAN NAT RED CROSS
CYC 18
PI WO 9300808 A1 19930121 (199305)* EN 84p
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE
W: CA JP
US 5217860 A 19930608 (199324) 34p
EP 594733 A1 19940504 (199418) EN
R: AT BE CH DE DK ES FR GB IT LI LU MC NL SE
JP 07500815 W 19950126 (199513) 20p
EP 594733 A4 19941130 (199541)
US 5472876 A 19951205 (199603) 34p
EP 800765 A2 19971015 (199746) EN 37p
R: AT BE CH DE DK ES FR GB IT LI LU MC NL SE
EP 800765 B1 20000524 (200030) EN
R: AT BE CH DE DK ES FR GB IT LI LU MC NL SE
DE 69231106 E 20000629 (200038)
ADT WO 9300808 A1 WO 1992-US5711 19920707; US 5217860 A US 1991-725054 19910708; EP 594733 A1 EP 1992-915604 19920707, WO 1992-US5711 19920707; JP 07500815 W WO 1992-US5711 19920707, JP 1993-502398 19920707; EP 594733 A4 EP 1992-915604 ; US 5472876 A Div ex US 1991-725054 19910708, Cont of US 1993-29432 19930310, US 1995-375469 19950119; EP 800765 A2 Div ex EP 1992-915604 19920707, EP 1997-107891 19920707; EP 800765 B1 Div ex EP 1992-915604 19920707, EP 1997-107891 19920707; DE 69231106 E DE 1992-631106 19920707, EP 1997-107891 19920707

FDT EP 594733 A1 Based on WO 9300808; JP 07500815 W Based on WO 9300808; US 5472876 A Div ex US 5217860; EP 800765 A2 Div ex EP 594733; EP 800765 B1 Div ex EP 594733; DE 69231106 E Based on EP 800765

PRAI US 1991-725054 19910708; US 1993-29432 19930310; US 1995-375469 19950119

AB WO 9300808 A UPAB: 20000811
Appts. comprises: a number of fluid reservoirs; an **organ** container for holding the biological **organ**; means defining a first fluid flow path between the reservoirs and the **organ** container; selection means interposed in the first fluid path for selectively connecting the reservoirs to the **organ** container; pump means interposed in the first fluid flow path for pumping fluid from one or more of the reservoirs to the **organ** container and for pumping fluid from the **organ** container to one or more of the reservoirs; means defining a second fluid flow path between the output side of the pump means and the reservoirs and bypassing the **organ** container; sensor means interposed in the fluid flow paths for sensing at least one of the concn., temp., pH, and pressure of the fluid flowing in the first and second fluid flow paths; a programmable computer; means coupling the sensor means to the computer for providing a continuous information stream from the sensor to the computer; and means coupling the computer to the selection means and the pump means to continuously selectively control (a) the flow of fluid from each of the reservoirs individually to the first fluid flow path, and (b) at least one of the pressure and pH of the fluid flowing in the first fluid path, in accordance with a predetermined computer program without operator intervention.

USE/ADVANTAGE - For computer-controlled **perfusion** of biological **organ**, e.g. heart, kidney, liver etc. The apparatus is esp. useful for introducing and removing vitrifiable concns. of cryoprotective agents into and from isolated **organs** or tissues for preservation and subsequent use. The apparatus permits control of the concn. of cryoprotectant or any other fluid or drug in the perfusate according to a wide variety of predetermined concn.-time histories independently of the flow rate of the perfusate. The appts. provides for in-line sensing of concn., pH, perforate temp. and other parameters and avoids the need for perfurate in reservoirs or for manual measurements. It minimises the differences between concn. of cryoprotectant monitored and in the perfusate reservoirs. A perfused into the **organ**. Arterio-venors difference in cryoprotectant concn. can be monitored across the **organ**. Varying sizes of **organs** can be perfused or cryoprotected.

mp

Dwg.1/8

L5 ANSWER 139 OF 197 WPIDS (C) 2003 THOMSON DERWENT

AN 1992-118311 [15] WPIDS

DNC C1992-054897

TI Appts. to preserve internal **organ** of animal or human for **transplanting** - comprising an **organ** carrying unit with an observation face which connects with a perfusate pump.

DC D22

PA (OLYU) OLYMPUS OPTICAL CO LTD

CYC 1

PI JP 04059701 A 19920226 (199215)* 5p

ADT JP 04059701 A JP 1990-166867 19900627

PRAI JP 1990-166867 19900627

AB JP 04059701 A UPAB: 19931006
Appts. comprises an **organ** carrying unit connectable with an in-hospital unit and a perfusate pump with a head attached to the observation face of the carrying unit when both units are connected.

USE - Used for transplating internal **organs**.

0/5

L5 ANSWER 143 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1991-303029 [41] WPIDS
DNC C1991-131274
TI Maintaining viability of **organs** for **transplant** - immersed in perfusate with constant monitoring and automatic adjustment of physical and chemical parameters.
DC D22
IN MARTINDALE, J G; PURDY, R E; STUPECKY, G L; TIDWELL, R G
PA (REGC) UNIV CALIFORNIA
CYC 1
PI US 5051352 A 19910924 (199141)*
ADT US 5051352 A US 1987-106074 19871007
PRAI US 1987-106074 19871007
AB US 5051352 A UPAB: 19930928
The viability of an animal **organ** for **transplantation** is maintained. The **organ** is held in a chamber through which a perfusate is circulated. The temp. of the perfusate is regulated to maintain both perfusate and **organ** in a desired temp. range. The perfusate is oxygenated prior to circulation. The electrochemical characteristics of the **organ** and perfusate are monitored and maintained in predetermined ranges. These include the ratio of intra- or extra-cellular concn. of potassium ions, the extra-cellular concn. of sodium ions, and the pH of the perfusate.

The electrophysical characteristics of the **organ** and perfusate are also monitored. These include any difference in charge distribution between various portions of the **organ**, extraneous electromagnetic stimuli, and electrical properties, e.g. voltage, conductance, impedance and resistance, of the perfusate. Electrical stimulation is generated and delivered to the **organ** or perfusate when the measured values fall outside predetermined limits.

USE - The appts. and method preserve animal **organs**, esp. human, in a viable state for **transplantation** or medical research. These include heart, liver, kidneys, brain, limbs and tissue.
1/7

L5 ANSWER 144 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1991-233791 [32] WPIDS
DNC C1991-101668
TI Appts. to preserve internal **organ** - comprising suction tube to draw off perfusate from internal **organ** in holder in storage chamber.
DC D22
PA (OLYU) OLYMPUS OPTICAL CO LTD
CYC 1
PI JP 03151303 A 19910627 (199132)*
ADT JP 03151303 A JP 1989-287385 19891106
PRAI JP 1989-287385 19891106
AB JP 03151303 A UPAB: 19930928
Appts. comprises a hydrophobic holder for holding an internal **organ** in an internal **organ** storing chamber, and suction tube to suck a perfusate from the holder to outside of the appts. and valve set at a drain side of the suction tube.

USE - For **transplanting** internal **organs**.
0/4

L5 ANSWER 146 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1991-222577 [30] WPIDS
DNC C1991-096622
TI Preservation solns. for **organs** for **transplantation** - comprise pyruvate, inorganic salts providing ions to retain cell action potential across membrane, protein and opt. ethanol.
DC D22 E12 E37
IN WIKMANCOFF, J
PA (REGC) UNIV CALIFORNIA

CYC 33
PI WO 9109520 A 19910711 (199130)*
RW: AT BE CH DE DK ES FR GB GR IT LU NL OA SE
W: AT AU BB BG BR CA CH DE DK ES FI GB HU JP KP KR LK LU MC MG MW NL NO RO SD SE SU
AU 9171755 A 19910724 (199143)
US 5066578 A 19911119 (199149)
US 5075210 A 19911224 (199203)
ADT US 5066578 A US 1989-455562 19891221; US 5075210 A US 1989-455580 19891221
PRAI US 1989-455562 19891221; US 1989-455580 19891221
AB WO 9109520 A UPAB: 19930928
Cardioplegia preservation soln. suitable for long-term preservation of the heart for **transplantation** comprises: (i) pyruvate; (ii) inorganic salts providing ions to retain the heart cell action potential across the membrane; (iii) a protein selected from albumin, foetal calf serum, or other protein providing viscosity similar to albumin; and opt. (iv) ethanol.

Also claimed is an **organ** preservation soln. suitable for longterm preservation of liver, kidney, spleen, heart-lung, pancreas, cartilage, skin and cornea for **transplantation** comprising (i)-(iii) as above. Preservation of the heart for **transplantation** comprises first **perfusion** of the heart with cardioplegia soln. contg. pyruvate at 37 deg.C, followed with a **perfusion** of the heart with a cardioplegia soln. contg. pyruvate and EtOH at 4-37 deg.C and storing the heart in a cardioplegia soln. contg. pyruvate at 2-10 deg.C.

Also claimed is method for **organ** preservation comprising **perfusion** of the **organ** with a first preservation soln. consisting of (i) and (ii) at 37 deg.C, followed by **perfusion** with a second soln. consisting (i), (iv) and (iii) at 4-37 deg.C and storing the **organ** in the first soln. at 2-10 deg.C.

ADVANTAGE - The first preservative soln. contains pyruvate in order to vasodilate, remove blood, increase flow, and load the cells with an energy supply in the form of a clean substrate. Pyruvate prevents oedema, ischaemia, calcium overload and acidosis. Also helps preserve the action potential across the cell membrane. @(49pp Dwg.No.0/6)

L5 ANSWER 147 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1991-136874 [19] WPIDS
DNC C1991-059082
TI Appts. to preserve internal **organs** - has temp. control unit to control temp. of coolant or perfusate based on output of 2nd detector and set value.
DC D22
PA (OLYU) OLYMPUS OPTICAL CO LTD
CYC 1
PI JP 03074302 A 19910328 (199119)*
ADT JP 03074302 A JP 1989-209634 19890815
PRAI JP 1989-209634 19890815
AB JP 03074302 A UPAB: 19930928
Appts. comprises a temp. control unit to control the temp. of a coolant or perfusate according to the difference between the output of a 2nd temp. detector to detect the temp. of the coolant to adjust the temp. of the perfusate and set value.

USE - For **transplanting** hearts/kidneys.

0/5

L5 ANSWER 149 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1990-189678 [25] WPIDS
DNC C1990-082256
TI Appts. to preserve internal **organ** removed from patient - comprises sensor to detect **organ**-preserving unit being turned down, and liq. control unit to limit perfusate fed into preserving unit.
DC D22

PA (OLYU) OLYMPUS OPTICAL CO LTD
CYC 1
PI JP 02124801 A 19900514 (199025)*
ADT JP 02124801 A JP 1988-274578 19881101
PRAI JP 1988-274578 19881101
AB JP 02124801 A UPAB: 19930928
Appts. to preserve internal **organ** removed from patient comprises a sensor to detect an internal-**organ** preserving unit being turned down, and liq. control unit to limit a perfusate from being fed into the **organ** preserving unit when a signal is received from the sensor.
USE - For **transplanting** kidneys.
0/9

L5 ANSWER 151 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1990-119647 [16] WPIDS
DNC C1990-052659
TI Appts. to preserve internal **organ** at low temp. for **transplants** - comprises low-temp. storage chamber and perfusate flow circuit with control unit and power source.
DC D22
PA (OLYU) OLYMPUS OPTICAL CO LTD
CYC 1
PI JP 02069401 A 19900308 (199016)*
ADT JP 02069401 A JP 1988-220454 19880905
PRAI JP 1988-220454 19880905
AB JP 02069401 A UPAB: 19930928
Appts. comprises a low temp. hold unit composed of an internal-**organ** store chamber and perfusate flow circuit, control unit to control the flow of the perfusate in the circuit and power source for these units.
USE - For **transplanting** internal **organs**.
0/6

L5 ANSWER 158 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1989-189463 [26] WPIDS
DNC C1989-083923
TI Appts. to preserve internal **organs** from living body - comprises cooling unit with unit for storing internal **organ** connected to perfusate circuit.
DC D22
PA (OLYU) OLYMPUS OPTICAL CO LTD
CYC 1
PI JP 01128901 A 19890522 (198926)* 6p
ADT JP 01128901 A JP 1987-287239 19871116
PRAI JP 1987-287239 19871116
AB JP 01128901 A UPAB: 19930923
Appts. comprises a cooling unit having an internal-**organ** preserving chamber connected to a perfusate circuit with a perfusate flow control unit.
USE - For **transplanting** hearts or kidneys into patients.

L5 ANSWER 168 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1985-247957 [40] WPIDS
DNN N1985-185322 DNC C1985-107733
TI **Organ**-damage determn. - by adding fluorescein to **perfusion** medium and fluorescence intensity determn. in outflowing perfusate.
DC B04 P31
IN DVORTSEVOI, V K; LUGOVOI, V I; PUSHKAR, N S
PA (AUCR-R) AS UKR CRYOBIOL MED
CYC 1
PI SU 1146000 A 19850323 (198540)* 3p
ADT SU 1146000 A SU 1983-3594979 19830311

PRAI SU 1983-3594979 19830311
AB SU 1146000 A UPAB: 19930925
According to the proposed method, fluorescein diacetate in concn. of 10-1000 to the power of minus 8M is added to the perfusate. The intensity of fluorescence in the perfusate, flowing back from the **organ**, shows the degree of damage of the **organ**.

In the 1st series of experiments, rabbit kidneys were used with 5 minutes of ischaemia; in the 2nd - 30 minutes, and in the 3rd, 60 minutes of ischaemia. Six kidneys were used in each series.

Henks' soln. was used as the **perfusion** medium, to which fluorescein diacetate was added. Fluorescence did not alter with 5-minute ischaemia. Fluorescence intensity rose to 1.5 times after 30 minutes of ischaemia, and to twice the original value, after 60 mins.

USE/ADVANTAGE - Determn. of functional condition of **organs** during their preservation, and directly before **transplantation**. Simplifies the determn. of the degree of damage. Bul.11/23.3.85
0/0

L5 ANSWER 169 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1985-120187 [20] WPIDS
DNC C1985-052317
TI Preservation of removed human **organ** for **transplanting** - by injecting isotonic **perfusion** liq. with cooling followed by antifreeze with further chilling.
DC D22
PA (HKUS) HOKUSAN KK
CYC 1
PI JP 60061503 A 19850409 (198520)* 4p
JP 61056202 B 19861201 (198652)
ADT JP 60061503 A JP 1983-170190 19830914
PRAI JP 1983-170190 19830914
AB JP 60061503 A UPAB: 19930925
An isotonic **perfusion** liq. (I) e.g. Collins soln. is injected into the artery or a portal vein of a removed human **organ**; the temp. of (I) is gradually chilled during injection and the injection is continued until the temp. approaches the freezing pt. of (I). An antifreeze **perfusion** liquid (II) (e.g. MDSO, glycerol) is then injected, its temp. is lowered gradually from the freezing pt. of (I) to that of (II), and the frozen **organ** is stored. The procedure is reversed before **transplantation** of the **organ**.

USE/ADVANTAGE - Allows freezing of removed **organ** with no destruction of cells and extends storage life.
0/0

L5 ANSWER 170 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1985-120185 [20] WPIDS
DNC C1985-052315
TI Preservation of removed human **organs** for **transplantation** - by **perfusion** with chilled isotonic agent and anticoagulant then with anti-freeze with cooling.
DC D22
PA (HKUS) HOKUSAN KK
CYC 1
PI JP 60061501 A 19850409 (198520)* 5p
JP 61056201 B 19861201 (198652)
ADT JP 60061501 A JP 1983-170188 19830914
PRAI JP 1983-170188 19830914
AB JP 60061501 A UPAB: 19930925
A mixt. of an isotonic **perfusion** liq. (e.g. physiological saline and collins soln.) and an anti-coagulant (e.g. heparin) is injected into the artery or a portal vein of a removed human **organ** and discharged from a vein, at a temp. slightly higher than the freezing pt. of the liq. An anti-freeze (e.g. glycerol) is then injected while further chilling gradually to a temp. slightly higher than the freezing pt. of the

anti-freeze, and the organis stored at that temp. The process is reversed to use the **organ** for **transplantation**.
USE/ADVANTAGE - Allows freezing of removed **organs** with no destruction of cells and extends storage life.
0/1

L5 ANSWER 171 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1985-025737 [05] WPIDS
TI Appts. for **perfusion** and cooling of **transplanted organs** - NoAbstract.
DC P31
PA (REHA-I) REHAK J
CYC 1
PI CS 8402370 A 19841119 (198505)* 8p
PRAI CS 1984-2370 19840329

L5 ANSWER 172 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1985-006826 [02] WPIDS
DNN N1985-004668
TI Arrangement for constant pressure **perfusion** - has pressure regulator and overflow situated between pump and **organ**.
DC P34
IN SEEMANN, B
PA (UYRO-N) PIECK-UNIV ROSTOCK
CYC 1
PI DD 213134 A 19840905 (198502)*
ADT DD 213134 A DD 1983-247523 19830127
PRAI DD 1983-247523 19830127
AB DD 213134 A UPAB: 19930925
The device provides a constant pressure of **perfusion** or if pressure exceeds a set limit the **perfusion** is ended. Between the pump, which hshas the desired pressure characteristics and the necessary output, and the **organ**, is situated a pressure regulator which allows so much fluid into the **organ** that the required pressure is reached. Excessive fluid is fed away.
USE - For maintaining constant **perfusion** pressure on an **organ** to be used in surgical **transplantation**.

L5 ANSWER 174 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1984-150885 [24] WPIDS
DNN N1984-112260
TI Body **organs** preservation unit - has fluid pumped from arterial reservoir via high-low temp. heat exchangers and regulator to chamber.
DC P34 S05
IN AKHTIN, V M; LYUBARSKAY, Z V; MONAKHOV, Y U I
PA (LEEE) LENGD ELECTROTECH RES
CYC 1
PI SU 1044290 A 19830930 (198424)* 3p
ADT SU 1044290 A SU 1981-3296539 19810528
PRAI SU 1981-3296539 19810528
AB SU 1044290 A UPAB: 19930925
Unit e.g. for preserving human and animal **organs** by the **perfusion** method prior to **transplantation** has an **organ** temp. regulation system with and heat-carrier flow regulators and controller to simplifier the construction. The **perfusion** material is pumped from the artenal reservoir (2) - by pump (3) - via produce connected high-temp. and low temp. heat exchangers (5, 6) and regulator (14) is preserved **organ** vessels and via pump (4) - to the internal region or chamber (1). The flow, passing via heat-exchanger (5) is heated via heater (11) and the flow, passing via heat exchange (6) is cooled via cooler (13). Control system (10, 12) maintain a constant temp. across the heat-exchangers (5, 6) at a set level, monitored via the measurement temp. converters (8, 9) independent of the disturbing action. Bul.36/30.09.83.

1/1

L5 ANSWER 175 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1984-001362 [01] WPIDS
DNC C1984-000372
TI Preservation of **organ** excised from human body - by **perfusing organ** with different liquids while cooling **organ** to freezing temp..
DC D22 Q74
IN KURAOKA, Y; SAKAO, N
PA (HKUS) HOKUSAN KK; (HKUS) HOXAN KK
CYC 10
PI EP 96997 A 19831228 (198401)* EN 21p
R: CH DE FR GB LI NL SE
JP 58213701 A 19831212 (198404)
US 4462215 A 19840731 (198433)
JP 59184101 A 19841019 (198448)
US 4494385 A 19850122 (198506)
CA 1200507 A 19860211 (198611)
EP 96997 B 19860924 (198639) EN
R: CH DE FR GB LI NL SE
DE 3366419 G 19861030 (198645)
JP 61055881 B 19861129 (198652)
JP 61055882 B 19861129 (198652)
ADT EP 96997 A EP 1983-303133 19830601; JP 58213701 A JP 1982-95896 19820604; US 4462215 A US 1983-499220 19830531; JP 59184101 A JP 1983-56593 19830331; US 4494385 A US 1984-615212 19840520
PRAI JP 1982-95896 19820604; JP 1983-56593 19830331
AB EP 96997 A UPAB: 19930925
Organ is preserved by injecting blood uniformly **perfusing** liquid such as choline from an artery or portal vein while lowering its temp., and exhausting it from the vein, the cooling continuing until the liquid is lowered to the first proximity lowering temp. before its solidifying temp. The **organ** is then perfused with refrigerant defect preventing agent such as DMSO or glycerin and the temp. lowered until the agent becomes the second proximity lowering temp. before its solidifying temp. Finally the **organ** is perfused with a low solidifying temp. liquid, such as alcohol or ether, and the temp. lowered until the liquid reaches the third proximity lowering temp. before its solidifying temp. or until the liquid is frozen and the **organ** thus obtd. is preserved in its frozen state.
Used for preserving an **organ** for **transplant**. The **organ** is preserved semipermanently without cell necrocytosis occurring.
0/2

L5 ANSWER 180 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1982-55169E [27] WPIDS
TI Soln. for protecting **organs** against ischaemic damage - contains alpha keto glutarate, histidine, histidine hydrochloride and tryptophan.
DC B05 D22
IN BRETSCHNEI, H J
PA (KOHC) KOEHLER CHEMIE GMBH FRANZ
CYC 12
PI EP 54635 A 19820630 (198227)* DE 15p
R: AT BE CH DE FR GB IT LI NL SE
US 4415556 A 19831115 (198348)
CA 1170994 A 19840717 (198433)
EP 54635 B 19850213 (198507) DE
R: AT BE CH DE FR GB IT LI NL SE
DE 3168925 G 19850328 (198514)
ADT EP 54635 A EP 1981-108101 19811009
PRAI CH 1980-9510 19801223
AB EP 54635 A UPAB: 19930915

Protective soln. for preventing ischaemic damage to heart and kidneys as well as other during surgery and **organ transplantation**, contains alpha-ketoglutarate (I) and a buffer based on histidine-histidine hydro-chloride and tryptophan. It also contains electrolytes usually present in cardioplegic solns., specifically K and Mg ions, and opt. also a polyol or sugar.

A claimed soln. contains, mmoles per e, Na or K hydrogen alpha-ketoglutarate 1-7; NaCl 7-23; KCl 2-18; MgCe2 8-12; Try 1-3; His 50-250; HisHCl 5-27; mannitol 0-100; ribose 0-100 and inosine 0-100. It has osmolarity 300-350 mosmoles and pH 6.8-7.4.

The addn. of (I) significantly improves the effect of the soln., esp. it improves aerobic metabolism during **perfusion** with the soln. without increasing the **organ**'s basal metabolism. The addn. of Li ions is no longer necessary.

L5 ANSWER 186 OF 197 WPIDS (C) 2003 THOMSON DERWENT
AN 1980-12580C [07] WPIDS
TI Portable **perfusion** system for **organ** preservation - has interchangeable cassette for holding **organ**.
DC D22 P31
IN TOLEDOPERE, L H
PA (FORD-N) FORD HOSPITAL HENRY
CYC 2
PI US 4186565 A 19800205 (198007)*
CA 1129293 A 19820810 (198235)
PRAI US 1978-907878 19780519
AB US 4186565 A UPAB: 19930902
Portable **perfusion** system for preservation of **organs**, esp. kidneys for **transplantation**, comprises a cart on which a refrigeration unit, pump and cassette are mounted with the pump and casette being removable for separate transport. The cassette has an **organ** receptacle, a heat exchanger, a membrane oxygenator, a bubble trap and an ice deposit area.

The heat exchanger is connected to the refrigeration unit and the perfusate is pumped through the heat exchanger to the bubble trap and, in turn, to the **organ**. An O2 supply on the cart supplies O2 to the membrane oxygenator which oxygenates the perfusate.

Portable system with a cassette which can be removed for interchange with other systems.

=> d his

(FILE 'HOME' ENTERED AT 12:42:06 ON 09 APR 2003)

FILE 'WPIDS' ENTERED AT 12:42:14 ON 09 APR 2003
L1 25991 S ORGAN
L2 16342 S TRANSPLANT?
L3 2948 S PERFUSION OR PERFUSE
L4 3043 S PERFUSING OR L3
L5 197 S L1 AND L2 AND L4

=> log hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	256.54	256.75

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 13:06:37 ON 09 APR 2003